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COMMISSION STAFF WORKING DOCUMENT

Analysis of the recovery and resilience plan of Germany

Accompanying the document

Proposal for a COUNCIL IMPLEMENTING DECISION

amending Implementing Decision (EU) (ST 10158/21 and ST 10158/21 ADD 1) on the approval of the assessment of the recovery and resilience plan for Germany

{COM(2023) 726 final}

Table of contents

1. Executive summary	2
2. Objectives of the modification of the plan	3
3. Summary of the assessment of the plan	5
3.1. Comprehensive and adequately balanced response to the economic and social situation	5
3.2. Link with country-specific recommendations and the European Semester	6
3.3. Growth potential, job creation, economic, institutional and social resilience, European Pillar of Social Rights, mitigating the impact of the crisis, and social territorial cohesion and convergence	7
3.4. The principle of ‘do no significant harm’	8
3.5. Green transition.....	8
3.6. Digital transition	10
3.7. Lasting impact of the plan.....	11
3.8. Milestones, targets, monitoring and implementation.....	12
3.9. Costing	12
3.10. Controls and audit.....	13
3.11. Coherence	14
ANNEX I: Climate tracking and digital tagging	16

1. EXECUTIVE SUMMARY

After having recovered from the COVID-19 pandemic, the German economy is currently showing weak growth performance, under exceptional economic circumstances, characterised by the war of aggression against Ukraine and the need to accelerate the green energy transition. Russia's war of aggression against Ukraine has led to a surge in energy and commodity prices in Germany as well as to a higher awareness of the need of energy security and autonomy. At the same time, the maximum financial contribution available for Germany under the Recovery and Resilience Facility (RRF) was updated on 30 June 2022 and resulted in an increased contribution for Germany. On 15 September 2023, Germany submitted a request to update its recovery and resilience plan. For the update of its recovery and resilience plan (RRP), Germany has relied on Article 18(2) of Regulation (EU) 2021/241 as the legal basis to take into account its updated maximum financial contribution with the aim to accelerate its green and energy transition and address its current challenges, including those identified in the country specific recommendations to Germany in 2022 and 2023.

The update of German RRP includes one new investment and two scaled-up investments as follows:

- Investment 1.1.6 (*Federal support for efficient heat networks*) is a new measure. It consists of a funding scheme to invest in the construction, expansion and transformation of district heating systems to integrate renewable energy and waste heat.
- Amendments to investment 1.2.1 (*Support for the construction of charging infrastructure*) in order to scale up the existing investment by adding an additional 289 000 recharging points in residential buildings.
- Amendments to investment 1.2.3 (*Support for the replacement of the private vehicle fleet*) in order to scale up the existing investment by promoting an additional 399 450 electric vehicles.

Based on the assessment of the submitted modification, the German modified plan receives an A-rating on all criteria, except for costing, where the plan receives a B-rating (unchanged from the original plan assessment).

(1) Balanced Response	(2) CSRs ¹	(3) Growth, jobs...	(4) DNSH ²	(5) Green target	(6) Digital target	(7) Lasting impact	(8) M & T ³	(9) Costing	(10) Control Systems	(11) Coherence
A	A	A	A	A (47.0%)	A (48.1%)	A	A	B	A	A

¹ Country specific recommendations.

² Do no significant harm.

³ Milestones and targets.

2. OBJECTIVES OF THE MODIFICATION OF THE PLAN

2.1 The updated plan addresses Germany's newly emerged challenges.

In 2022, Russia's war of aggression against Ukraine led to a surge in energy and commodity prices in Germany and the EU as a whole as well as to a higher awareness of the need of energy security and autonomy. In line with the country specific recommendations 2022.4 focusing on reducing overall reliance on fossil fuels and improving energy efficiency and 2023.4 focusing on energy efficiency measures in building, including through investment in heating systems, the updated RRP contributes towards the decarbonisation of the heating systems.

The new and upscaled measures add a significant additional contribution to the green transition pillar by reducing the reliance on fossil fuels and increasing energy efficiency and security. Therefore, the RRP continues to address the main challenges identified in relevant country-specific recommendations.

2.2 Overview of the new and modified components and their associated estimated costs.

The main elements of the updated RRP are listed below by component.

Component 1.1 Decarbonisation using renewable hydrogen in particular:

New investment 1.1.6 *Federal support for efficient heat networks:*

The investment in green district heating networks is designed to encourage the development of customized strategies to decarbonise and develop district heating networks. The measure consists of financial support to investment projects to decarbonise existing district heating systems, as well as investment projects for the construction of new district heating networks, expanding the share of heat from renewable sources and waste heat.

Component 1.2 Climate friendly mobility

Scaled-up investment: 1.2.1 *Support for the construction of charging infrastructure*

In accordance with Article 18(2) of Regulation (EU) 2021/241, Germany proposes to increase the ambition of this investment by increasing the target of recharging points in residential buildings from 400 000 in the original plan to 689 000 in the revised plan.

Scaled-up investment: 1.2.3 *Support for the replacement of the private vehicle fleet*

In accordance with Article 18(2) of Regulation (EU) 2021/241, Germany proposes to increase the ambition of this investment by promoting an additional 399 450 vehicles under the measure.

Table 1: New and modified components and associated costs

Component	Status	Costs (EUR million)
1.1 Decarbonisation using renewable hydrogen in particular	Modified	570
1.2. Climate friendly mobility	Modified	1 820

Other elements not covered by assessment criteria

The description of aspects related to administrative organisation, gender equality and equal opportunities for all, consultation process, security self-assessment for digital investments and the planned communication strategy as reflected in the previous Staff Working Document (2021) 163 final/2 remains valid.

Consultation process

The updated RRP explains that consultations with stakeholders (Länder, social partners, welfare organisations, environmental associations, representatives of civil society) have taken and will continue to take place over the course of the implementation of the plan on a regular basis.

In preparation of the updated plan, the German authorities held meetings with the Länder (29 August 2023), social partners and welfare organisations (22 March 2023 and 7 July 2023) as well as environmental associations (26 April 2023). During these meetings the measures envisaged for the update of the plan were presented to the stakeholders and discussed. Individual questions were answered, and comments and suggestions were taken into account when finalising the measures for the plan.

Feedback received during the original consultation process, most notably with regard to the need to invest in the expansion and transformation of district heating systems to integrate renewable energy and waste heat, has been considered in the new measure 1.1.6 *Federal support for efficient heat networks*. To ensure ownership by the relevant actors, it will remain crucial to involve all local authorities and stakeholders concerned, including social partners, throughout the implementation of the investments and reforms included in the updated RRP.

State aid

State aid and competition rules fully apply to the measures funded by the Recovery and Resilience Facility. Union funds channelled through the authorities of Member States, like the RRF funds, become State resources and can constitute State aid. When this is the case and State aid is present, these measures must be notified and approved by the Commission before Member States can grant the aid, unless those measures are covered by an existing aid scheme or comply with the applicable conditions of a block exemption regulation, in particular the General Block Exemption Regulation (GBER) declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 TFEU⁴. When State aid is present and it requires notification, it is the duty of the Member State to notify State aid measures to the Commission before granting them, in compliance with Article 108(3) TFEU. In this respect, the State aid analysis carried out by Germany in the recovery and resilience plan cannot be deemed a State aid notification. In as far as

⁴ Annex to the Communication to the Commission of 9 March 2023 on the Approval of the content of a draft for a Commission Regulation amending Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty and Regulation (EU) 2022/2473 declaring certain categories of aid to undertakings active in the production, processing and marketing of fishery and aquaculture products compatible with the internal market in application of Articles 107 and 108 of the Treaty; available at: https://competition-policy.ec.europa.eu/system/files/2023-03/GBER_amendment_2023_EC_communication_annex_0.pdf

Germany considers that a specific measure contained in the recovery and resilience plan entails de minimis aid or aid exempted from the notification requirement, it is the responsibility of Germany to ensure full compliance with the applicable rules.

3. SUMMARY OF THE ASSESSMENT OF THE PLAN

3.1. Comprehensive and adequately balanced response to the economic and social situation

The modifications to Germany’s RRP do not change, and rather confirm and strengthen the previous assessment that the RRP is a comprehensive and adequately balanced response to the economic and social situation. With the modifications, Germany does not remove nor reduce any investment or reform but reinforces two existing investments and adds one additional investment contributing to the first pillar, green transition. The updated RRP still covers in a comprehensive manner the six pillars structuring the scope of application of the Facility (Article 3 of Regulation (EU) 2021/241), namely: (i) green transition, (ii) digital transformation, (iii) smart, sustainable and inclusive growth, (iv) social and territorial cohesion, (v) health and economic, social and institutional resilience, and (vi) policies for the next generation. The coverage of the German plan’s components towards the six pillars is summarised in Table 2. All pillars are covered by at least one component, while a component may contribute to several pillars.

Table 2: Coverage of the six pillars of the Facility by the new or modified RRP components

Components	Green transition	Digital transition	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, and economic, social and institutional resilience	Policies for the next generation
1.1. Decarbonisation using renewable hydrogen in particular	●		●		○	
1.2. Climate-friendly mobility	●		●			
1.3. Climate-friendly renovation and construction	●		○	○		
2.1. Data as the raw material of the future	○	●	●		○	
2.2. Digitalisation of the economy	○	●	○	○	○	○
3.1. Digitalisation of education		●	●	●	○	●
4.1. Strengthening social inclusion		○	○	●		●
5.1. Strengthening a pandemic-resilient healthcare system		●	●	○	●	
6.1. Modern public administration		●	○	○	●	
6.2. Reducing barriers to investment	○	○	○	●	○	○

Key: ‘●’ investments and reforms of the component significantly contribute to the pillar;
‘○’ the component partially contributes to the pillar.

Green transition

Germany's updated plan focuses significantly on supporting the green transition, with three components dedicated to this pillar and three other components also contributing. Modifications of both new and scaled-up measures increase the contribution of the revised plan to this pillar. The climate contribution now stands at 47.0%, compared to 42.4% in the original plan, that was already above the target of 37%.

Digital transformation

The digital transformation still represents a significant part of Germany's updated plan. The updated RRP continues to significantly contribute to promoting the digital transformation in a variety of areas, including public administration and public services, private sector, education, research and innovation, health. The increased importance of measures without digital aspects have reduced the contribution of the updated plan to the digital pillar from 52.6% in the original plan to 48.1%, yet this remains more than double the target of 20%.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan represents a comprehensive and adequately balanced response to the economic and social situation, thereby contributing appropriately to all six pillars referred to in Article 3 of the RRF Regulation, taking the specific challenges and the financial allocation of Germany into account.

3.2. Link with country-specific recommendations and the European Semester

The modifications to Germany's RRP confirm and strengthen the previous assessment that the RRP is contributing to effectively addressing all or a significant subset of the country-specific recommendations addressed to Germany. As the maximum financial contribution for Germany has been adjusted upwards, all 2022 and 2023 country-specific recommendations are considered in the overall assessment.

Notably, the updated plan contributes to addressing the country-specific recommendations 2023.4 and 2022.4 to step up energy efficiency measures in buildings. It does so through investments in new and existing heating systems and by funding feasibility studies and transformation plans, which enable operators of district heating networks to develop long-term strategies to decarbonise. The scheme provides investment aid for district heating networks, renewable heat generation facilities and measures needed to integrate renewable heat and waste heat, including efficiency measures and storage units, and incentivises the implementation of decarbonisation strategies. Efficient district heating can contribute to reducing emissions and boosting energy efficiency in the energy, industry and buildings sector. The measure is in line with the country-specific recommendations to step up efforts to save energy and substitute fossil fuels.

In line with the country-specific recommendations 2022.4 focusing on reducing overall reliance on fossil fuels and improving energy efficiency and country-specific recommendation 2023.4 to step up energy efficiency in the transport sector, the updated plan makes a sizeable effort to

accelerate investments in climate-friendly mobility. The original RRP contains measures to promote the sale of electric vehicles, supporting battery–electric vehicles. This effort was complemented by support for the construction of charging infrastructure. The updated plan includes a scale up of the measures 1.2.1 “*Support for the construction of charging infrastructure*” and 1.2.3 “*Support for the replacement of the private vehicle fleet*“. The measures under component 1.2 *Climate-friendly mobility* are expected to support Germany in reaching its GHG emission reduction targets in the transport sector. The support scheme for e-vehicles (1.2.3) is expected to directly boost demand for these types of passenger cars by means of targeted support, while measure 1.2.1 is expected to improve the necessary charging infrastructure.

The nature and extent of the proposed modifications to Germany’s recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan contributes to addressing all or a significant subset of challenges identified in the country-specific recommendations, or challenges in other relevant documents officially adopted by the Commission under the European Semester, and of the adequacy of its response to the economic and social situation of Germany.

3.3. Growth potential, job creation, economic, institutional and social resilience, European Pillar of Social Rights, mitigating the impact of the crisis, and social territorial cohesion and convergence

As part of the modification of the RRP, Germany has reinforced support for the charging infrastructure and replacement of the private vehicle fleet and committed to a new measure expanding district heating. All modifications contribute to reducing reliance on fossil fuels and considering the geopolitical concerns regarding the availability of fossil fuel sources, this also contributes to increasing the socio-economic resilience of Germany.

Stylised simulations by the Commission services estimate that the updated RRP, including the increased financial contribution, together with the rest of measures of the European Union Recovery Instrument, have the potential to increase the GDP of Germany by between 0.4 % and 0.8% by 2025, not explicitly including the possible positive impact of structural reforms.

The nature and extent of the proposed modifications to Germany’s recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan does not alter the plan’s impact on the growth potential, job creation, and economic, social and institutional resilience of Germany, on contributing to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and youth, and on mitigating the economic and social impact of the COVID-19 crisis, thereby enhancing the economic, social and territorial cohesion and convergence within the Union.

3.4. The principle of ‘do no significant harm’

Germany has submitted two scaled up measures, one related to the support to electric vehicles and one related to charging infrastructure for electric vehicles that have already been assessed as compliant with the do-no-significant-harm principle under the original RRP. In fact, the ambition of the measures supporting electric vehicles has increased by restricting the scope of the measure to purely electric vehicles as per the new funding guidelines from 17 November 2022 and entering into force as of 1 January 2023⁵.

In addition, a new measure has been submitted that provides support for green district heating systems. The measure does not provide support to heat sources using fossil fuels and focuses on the integration of waste heat and renewable heat sources, such as thermal solar, heat pumps and sustainable biomass. New green district heating networks have to be supported by at least 75% renewable energy sources and waste heat, an ambition that goes beyond the definition of “efficient district heating systems” as set out in Article 2(41) of the Energy Efficiency Directive. Beyond this, the measure has been assigned a 100% climate coefficient under Intervention Field 034bis0 in accordance with the methodology set out in Annex VI to the RRF Regulation.

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Germany’s modified recovery and resilience plan is expected to do a significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852 (the principle of ‘do no significant harm’). This would warrant a rating of A under criterion 2.4 of Annex V to the RRF Regulation.”

The nature and extent of those proposed modifications Germany’s recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and no measure for the implementation of reforms and investment projects included in the modified plan is expected to do a significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852 (the principle of ‘do no significant harm’),.

3.5. Green transition

The updated plan continues to fulfil the elements corresponding to the assessment criterion 2.5 of Annex V to the RRF Regulation⁶. The updated plan continues to contain measures that effectively contribute to the green transition, notably the climate change objectives.

The modified measures aid emission reduction and improve the sustainability in the transport sector through the timely deployment of zero-emission vehicles and electric charging infrastructure. The measure on federal funding for efficient heating networks aids emission

⁵ BAnz AT 09.12.2022 B1.

⁶ Regulation (EU) 2021/241.

reduction in the heating and cooling sector through enabling the replacement of higher-carbon alternatives, notably coal cogeneration plants, with heat from renewable sources and waste heat, and through decarbonising and expanding district heating and systems, thus increasing the sustainability of energy infrastructure.⁷ The modified elements have indirect positive effects on biodiversity through decreasing the emission of air pollutants both in the transport and in the heating and cooling sectors and through their contribution to climate change mitigation.

In accordance with Article 17 of Regulation (EU) 2021/241, the updated RRP is consistent with the information included in the National Energy and Climate Plan 2021-2030 (NECP). The federal funding programme for efficient heating networks is explicitly mentioned in the NECP⁸ and aims to contribute to achieving net-zero greenhouse gas emissions in the heating and cooling sector as well as related sectors (building and industry) by 2045 as well as interim targets in the NECP and the targets in Articles 23 and 24 of the revised Renewable Energy Directive⁹.

In its recovery and resilience plan, Germany provides a table indicating for each measure whether it contributes 0%, 40% or 100% to climate change or environmental objectives. Germany indicated that the current climate and digital tracking should continue to apply to modified measures and provided an additional table as well as justification for the new measure on federal funding for efficient heating networks. The climate tracking of the modified elements at 100%, have been assessed by the Commission as having been correctly assigned in accordance with the methodology set out in Annex VI to the RRF Regulation (see also Annex 1 on climate tracking and digital tagging). Thereby, the climate contribution of the plan increases from the original 42.4% to 47.0%.

Table 3: Climate contribution per component

Component	Total cost (EUR million)	Climate related	Climate contribution	
			(% of cost of component)	(% of non-repayable allocation)
1.1 Decarbonisation using renewable hydrogen in particular	3 708	3 708	100.0%	13.2%
1.2 Climate-friendly mobility	7 149	6 326	88.5%	22.6%
1.3 Climate-friendly renovation and construction	2 574	2 523	98.0%	9.0%
2.1 Data as the raw material of the future	2 684	150	5.6%	0.5%
2.2 Digitalisation of the economy	3 019	460	15.2%	1.6%

⁷ As supporting evidence to the submission of the modified plan, Germany provided a scientific study on the envisioned district heating measure. As about three-quarters of district heating production is attributable to the direct use of fossil fuels, in particular coal and gas power plants, and renewable energies for district heating are more costly than fossil fuel alternatives (scientific study on district heating, p. 6), the investments envisioned under this measure can be expected to make a targeted contribution to decarbonisation.

⁸ German Integrated National Energy and Climate Plan (2019), p. 44.

⁹ Renewable Energy Directive (2018/2001/EU).

Component	Total cost	Climate related	Climate contribution	
	(EUR million)		(% of cost of component)	(% of non-repayable allocation)
3.1 Digitalisation of education	1 206	0	0.0%	0.0%
4.1 Strengthening social inclusion	1 174	0	0.0%	0.0%
5.1 Strengthening of a pandemic-resilient healthcare system	4 275	0	0.0%	0.0%
6.1 Modern public administration	2 920	0	0.0%	0.0%
6.2 Reduction of barriers to investment	42	0	0.0%	0.0%
Total	28 750	13 167	45.8%	47.0%

Note: The table shows the cost of the components without VAT. For some measures Germany indicated that the gross costs may include VAT, which for this table was deducted assuming that the full VAT rate of 19% applies. This results in a potentially lower estimate for the measure cost without VAT. Reflecting this, the contribution to climate purposes is estimated to be at least 47.0%. For further details, please see the tagging at measure level in Annex 1.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan contributes to the green transition and to the climate target.

3.6. Digital transition

The modified German RRP continues to follow the methodology for digital tagging set out in Annex VII to the RRF Regulation, by identifying intervention fields, and corresponding coefficients for the calculation of support to the digital objectives, for each measure (the table in Annex I presents the detailed application of the digital tagging methodology). It should be noted that the tagging and the estimated expenditure of existing measures has not been altered. On this basis the assessment as reflected in the previous SWD(2021) 147 final is maintained for all measures. The measures supporting digital objectives account for an amount which represents 48.1% of the modified RRP's total allocation calculated in accordance with the methodology set out in Annex VII of that Regulation.

Table 4 –Digital contribution per component

Component	Total cost	Digital related	Digital contribution	
	(EUR million)		(% of cost of component)	(% of non-repayable allocation)
1.1 Decarbonisation using renewable hydrogen in particular	3 708	0	0.0%	0.0%

Component	Total cost	Digital related	Digital contribution	
	(EUR million)		(% of cost of component)	(% of non-repayable allocation)
1.2 Climate-friendly mobility	7 149	0	0.0%	0.0%
1.3 Climate-friendly renovation and construction	2 574	0	0.0%	0.0%
2.1 Data as the raw material of the future	2 684	2 684	100.0%	9.6%
2.2 Digitalisation of the economy	3 019	2 664	88.2%	9.5%
3.1 Digitalisation of education	1 206	1 206	100.0%	4.3%
4.1 Strengthening social inclusion	1 174	319	27.2%	1.1%
5.1 Strengthening of a pandemic-resilient healthcare system	4 275	3 684	86.2%	13.1%
6.1 Modern public administration	2920	2920	100.0%	10.4%
6.2 Reduction of barriers to investment	42	0	0.0%	0.0%
Total	28 750	13 476	46.9%	48.1%

Note: The table shows the cost of the components without VAT. For some measures Germany indicated that the gross costs may include VAT, which for this table was deducted assuming that the full VAT rate of 19% applies. This results in a potentially lower estimate for the measure cost without VAT. Reflecting this, the digital contribution is estimated to be at least 48.1%. For further details, please see the tagging at measure level in Annex 1.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan does not alter the contribution of the plan to the digital transition and to the digital target.

3.7. Lasting impact of the plan

The updated RRP is expected to have an additional lasting impact in particular with regard to the green transition. The modified RRP increases the ambition of the initial plan as a whole, notably, the increased support for expanding the charging infrastructure and replacing the private vehicle fleet may increase scale effects through accelerating the transition. The expansion of district heating networks results in the provision of infrastructure contributing to energy efficiency with a long lifetime. It aims to ensure the carbon neutrality of the heating network by 2045.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan does not alter the lasting impact of the measures proposed by Germany.

3.8. Milestones, targets, monitoring and implementation

The original assessment regarding ensuring effective monitoring and implementation of the RRP remains mostly the same. The existing monitoring and control system for the updated German RRP enables an adequate monitoring of the plan's implementation. The structure tasked with the implementation, monitoring and reporting of the RRP is still in place, the coordination unit in the Federal Ministry of Finance and the line Ministries continue to have clearly assigned responsibilities and adequate structure for implementing the plan, monitoring progress and reporting. The overall arrangements proposed by Germany in terms of organisation of the implementation of the reforms and investments remain credible. The milestones and targets that accompany the new and modified measures, are clear and the proposed indicators for those milestones and targets are relevant, acceptable, and robust.

At the same time, in its audit on the protection of the financial interests of the Union (PFIU) the Commission found shortcomings regarding the staffing level of the coordinating body, and noted that even if the coordinating body created an overview of measure implementation, it still has difficulties to closely monitor and control the implementing bodies' activities, potentially emerging risks or hurdles related to the particular measures.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan does not alter the adequacy of the arrangements proposed by Germany to ensure the effective monitoring and implementation of the plan.

3.9. Costing

Germany has provided detailed information on the estimated costs for the updated RRP, including the new investment measure in component 1.1. The estimated costs of the new investment and the scaled-up investments are reasonable and in line with the nature and type of the envisaged investments. Most of the calculations are clearly explained and well substantiated by supporting documents, allowing to identify the methodology used.

Reasonable costs

Germany accompanied its claims with actual data and supporting evidence for unit cost estimates, together with adequate explanation for the calculation methodology. Overall, the assumptions used by Germany to estimate the costs of the new and for the two measures where the level of required implementation has been increased provide a reasonable explanation of the key cost drivers of the measures. The calculations are generally clearly spelled out allowing to identify the methodology used.

Plausible costs

Most of the estimated costs of the new and the two measures where the level of required implementation has been increased are in line with the nature and the type of the envisaged investments. Overall, the cost estimates of the new measure and the measures where the level of required implementation has been increased, are assessed as plausible.

No double funding Germany has indicated that the costs to be financed by the RRF will not be funded by other Union funding sources. More specifically, Germany committed to ensure that no double funding with other funding instruments will occur in the case of complementary actions are undertaken by other Funds as it may be the case with the complementary funding by the European Regional Development Fund (for energy efficiency measures /heat networks).

Commensurate and cost-efficient costs

The estimated total costs of the updated RRP are in line with the principle of cost-efficiency and are commensurate to the expected national economic and social impact. The updated RRP, including the new investment and the two up-scaled measures, is expected to effectively address a significant subset of challenges identified in the country-specific recommendations (CSRs). In particular the new measures and the up-scaled measures are expected to address challenges identified in CSRs in the field of energy and green transition, notably the modified plan addresses the country-specific recommendations 2023.4 and 2022.4 focusing on energy efficiency measures in buildings, including through investment in heating systems as well as the country-specific recommendation 2022.4 focusing on reducing overall reliance on fossil fuels and improving energy efficiency and country-specific recommendation 2023.4 specifically mentioning energy efficiency in the transport sector.

The justification provided by Germany on the amount of the estimated total costs of the modified recovery and resilience plan is to a medium extent reasonable, plausible, in line with the principle of the cost-efficiency and is commensurate to the expected national economic and social impact.

Germany provided sufficient information and evidence that the amount of the estimated cost of the reforms and investments of the modified recovery and resilience plan to be financed under the Facility is not covered by existing or planned Union financing.

This would warrant a rating of B under criterion 2.9 of Annex V to the RRF Regulation.

3.10. Controls and audit

The previous assessment on the adequacy of the control and audit arrangements presented by Germany in the RRP to prevent, detect and correct corruption, fraud and conflicts of interest when using the funds provided under the Facility, including the arrangements aimed to avoid double funding from the Facility and other Union programmes, had concluded that these arrangements are adequate. This warranted a rating of A under the assessment criterion 2.10 of Annex V to the RRF Regulation.

The modifications to the original plan as such do not affect the original assessment. However, in the context of the modification of the German RRP, its audit and control system needs to be reassessed on the basis of criteria 2.10 of Annex V of the RRF Regulation.

Robustness of internal control system and distribution of roles and responsibilities

The original assessment finding that the internal control system is robust, with a clear distribution of roles and responsibilities, and the bodies are independent in their functioning, remains the same.

Adequacy of control systems and other relevant arrangements

The original assessment regarding the adequacy of the control systems and other relevant arrangements remains mostly the same.

Adequacy of arrangements to avoid double EU funding

The original assessment regarding the adequacy of the control systems and other relevant arrangements remains mostly the same.

Legal empowerment and administrative capacity of control function

The original assessment regarding the adequacy of the control systems and other relevant arrangements remains mostly the same.

Conclusion

The chapter of the plan on audit and control and the additional information provided gives a rather complete description of the arrangements for the implementation and control of Germany's RRP. The chapter provides the details for all the entities and gives reasonable assurance that there is a sound structure in place to monitor, implement and control the allocated funds from the RRF.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan does not alter the adequacy of the control and audit arrangements proposed by Germany.

3.11. Coherence

The original RRP is structured around 10 components. Within each component, the reforms and investments are targeted to achieve coherent objectives and their expected results reinforce each other. The planned actions in the different components are also coherent and complementary, with structural reforms accompanying planned investments in order to reinforce their impact. Further, there is consistency and intrinsic complementarity among the measures from different components. In order to promote greater consistency among instruments, and in particular with the European cohesion policy funds, a balanced territorial allocation of resources was encouraged. The original assessment concluded that the RRP included to a high extent (Rating A) measures for the implementation of reforms and public investment projects that represent coherent actions.

The modification to the RRP concerns two of the existing components, including one new measure and the scaling up two existing measures. The proposed modifications made to the existing components do not alter the overall coherence of the plan, considering the way the components are mutually reinforcing and complementary. The proposed modifications further reinforce the reduction of greenhouse gas emissions and promote the use of renewable energy, which is particularly important in the context of reducing dependency on fossil fuels. The modifications do not have contradictory aims or possible negative effects on one another.

The nature and extent of the proposed modifications to Germany's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) and the modified plan does not alter the coherence of the actions proposed by Germany.

ANNEX I: CLIMATE TRACKING AND DIGITAL TAGGING ¹⁰

Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff.	Int. Field	Coeff.
1.1.1.1	Hydrogen projects within the framework of IPCEIs: part 1	500	022	100%		
1.1.1.2	Hydrogen projects within the framework of IPCEIs: part 2	500	027	100%		
1.1.1.3	Hydrogen projects within the framework of IPCEIs: part 3	500	033	100%		
1.1.2	Funding programme for decarbonisation in industry	449.3	022	100%		
1.1.3	Pilot scheme for climate action contracts based on the principle of Carbon Contracts for Difference	550	027	100%		
1.1.4	Project-related climate protection research	50.4*	022	100%		
1.1.5	Flagship projects for research and innovation in the context of the National Hydrogen Strategy	588.2*	022	100%		
1.1.6	Federal support for efficient heat networks (BEW)	570	034bis0	100%		
1.2.1	Support for the construction of charging infrastructure	960.1	077	100%		
1.2.2.1	Funding for the development of electromobility: R & D, mobility concepts	42*	022	100%		
1.2.2.2	Funding for the development of electromobility: zero-emission vehicles	21*	n/a**	100%		
1.2.3.1	Support for the replacement of the private vehicle fleet: zero-emission vehicles	2 764	n/a**	100%		
1.2.3.2	Support for the replacement of the private vehicle fleet: hybrid vehicles.	1 296	n/a**	40%		
1.2.4	Extension of the initial registration period for granting the ten-year tax exemption for purely electric vehicles	295	n/a**	100%		
1.2.5	Support for purchases of buses with alternative propulsion	1 085	na**	100%		
1.2.6.1	Support to promote alternative rail propulsion: electric rolling stock	182	072bis	100%		
1.2.7.1	Promotion of the industries involved in hydrogen and fuel cell applications in transport: part 1	229.4*	022	100%		
1.2.7.2	Promotion of the industries involved in hydrogen and fuel cell applications in transport: part 2	229.4*	n/a**	100%		
1.3.2	Municipal living labs for the energy transition	57	025	40%		

¹⁰ While the total cost of Germany's recovery and resilience plan exceeds the total allocation of non-repayable financial support to Germany, Germany will ensure that all spending related to the investments mentioned in the following table as contributing to climate objectives are fully financed by the funds from the Recovery and Resilience Facility.

Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff.	Int. Field	Coeff.
1.3.3	Building renovation: federal funding for energy-efficient buildings	2 500	025bis	100%		
2.1.1.1	Innovative data policy for Germany: overall strategy high-performance computing	21*			021quarter	100%
2.1.1.2	Innovative data policy for Germany: ideas competition and piloting of data fiduciaries	45.4*			009bis	100%
2.1.1.3	Innovative data policy for Germany: research network depersonalisation	37.8*			009bis	100%
2.1.1.4	Innovative data policy for Germany: support programme anonymisation	25.2*			009bis	100%
2.1.1.5	Innovative data policy for Germany: National Research Data Infrastructure (<i>Nationale Forschungsdateninfrastruktur</i>) and data literacy	50.4*			108	100%
2.1.1.6	Innovative data policy for Germany: PhD programme in data sciences	5.5*			108	100%
2.1.1.7	Innovative data policy for Germany: incentives for the after-use of data	4.2*			108	100%
2.1.1.8	Innovative data policy for Germany: long-term competence monitoring	8.0*			108	100%
2.1.1.9	Innovative data policy for Germany: data literacy courses for students	8.8*			108	100%
2.1.1.10	Innovative data policy for Germany: toolbox data literacy	8.4*			108	100%
2.1.1.11	Innovative data policy for Germany: innovation process ‘architectures, institutions and spaces for the data society’	6.7*			108	100%
2.1.1.12	Innovative data policy for Germany: establishment of data cooperations	11.3*			011	100%
2.1.1.13	Innovative data policy for Germany: data literacy in the federal administration: data laboratories, Chief Data Scientists and competence building	200.8*			108	100%
2.1.2	IPCEI microelectronics and communication technologies	1 500			021quarter	100%
2.1.3.1	IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS): emission reduction and energy efficiency criteria	375	055bis	40%	021quarter	100%
2.1.3.2	IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)	375			021quarter	100%
2.2.1.1	Vehicle manufacturer/supply industry investment programme: digitalisation of production as a boost for productivity and resilience: greenhouse gas emission reduction or energy efficiency criteria	650	010ter	40%	010ter	100%
2.2.1.2	Vehicle manufacturer/supply industry investment programme: digitalisation of	427.1			010ter	100%

Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff.	Int. Field	Coeff.
	production as a boost for productivity and resilience					
2.2.1.3	Vehicle manufacturer/supply industry investment programme: new innovative products as the key to vehicles and mobility of the future - automated driving	392.67			009bis	100%
2.2.1.5	Vehicle manufacturer/supply industry investment programme: finding joint solutions, building regional innovation clusters	232.4			019	40%
2.2.2	Federal programme ‘Building continuing education and training networks (CET networks)’	31.9*			016	40%
2.2.3	Digitalisation and Technology Research Centre of the Bundeswehr (dtec.bw)	588.2*			009bis	100%
2.2.4	Promoting the digitalisation of rail by replacing conventional interlocking/fast-track programmes to speed up the roll-out of the ‘Digital Rail Germany’ (SLP)’	500	070	40%	070	100%
3.1.1	Investment programme for teacher devices	420.2*			012	100%
3.1.2	Education platform	529.4*			012	100%
3.1.3	Educational centres of excellence	172.3*			108	100%
3.1.4	Modernisation of the Federal Armed Forces’ educational and training facilities	84*			012	100%
4.1.3	Apprenticeships support	725			099	40%
4.1.5	Digital pension overview	28.8*			011	100%
5.1.1	Strengthening the digital and technical resources of the public health service	684*			011	100%
5.1.2	Programme to future-proof hospitals	3 000			095	100%
6.1.1	European identity ecosystem	168.1*			011	100%
6.1.2	Digitalisation of the administration – implementation of the Online Access Act	2 521*			011	100%
6.1.3	Digitalisation of the administration – modernisation of registers	231.1*			011	100%

* Budget figures are rounded to hundred thousands. The table shows the cost of the measures without VAT. For most measures this equals the cost included in the recovery and resilience plan. However, for measures marked with an asterisk (*), Germany indicated that their cost may include VAT, and in this table the cost is shown while taking away the full amount of potential VAT for these measures (assuming that the maximum VAT rate of 19% fully applies). For the original plan in 2021 Germany submitted two cost estimates. Using the same categories, the amended RRP has a gross value of EUR 30 181 006 986 that includes VAT for some measures, while a net value of at least EUR 28 749 958 599 excludes VAT.

** The ‘Methodology for climate tracking’ annexed to the Recovery and Resilience Facility Regulation does not set out intervention fields that would allow for climate or environmental tracking of electric vehicles or plug-in hybrid vehicles, except for vehicles for urban transport falling under intervention field 074. According to Article 18(4)(e) of the Regulation, the methodology should however ‘be used accordingly for measures that cannot be directly assigned to an intervention field listed in Annex VI’. In this context, the Commission has applied a 100% climate contribution coefficient for zero-emission vehicles of all categories (this includes battery electric and fuel cell/hydrogen-powered vehicles); a 40% climate contribution coefficient for plug-in hybrid light-duty vehicles; and, in line with the criteria under the Taxonomy Regulation, a 100% climate coefficient for low-emission heavy-duty vehicles.